

CLAIMS

1. Process for the catalytic hydrogenation of a nitrile in the presence of an amine,
a hydroxide and a freshly prepared and liquid-rinsed Raney-type catalyst,
5 characterized in that the catalyst is contacted with at least a part of the
hydroxide prior to contacting the catalyst with the amine.
2. Process according to claim 1, wherein the nitrile is a dinitrile.
3. Process according to claim 1 or 2, wherein the amine is a diamine.
4. Process according to any of claims 1-3, wherein the catalyst is a Ra-Ni-type
10 catalyst or a Ra-Co-type catalyst.
5. Process according to any of claims 1-4, wherein the hydroxide is chosen from
the group consisting of potassium hydroxide, rubidium hydroxide and cesium
hydroxide.
6. Process according to any of claims 1-5, wherein the hydroxide is used in an
15 amount of between 1 weight % and 15 weight %, relative to the weight of the
catalyst.
7. Process according to any of claims 1-6, wherein the part of the hydroxide, with
which the catalyst is contacted prior to contacting the catalyst with the amine,
is at least 10 weight%, relative to the total weight of hydroxide, with which the
20 catalyst is contacted.
8. Process according to any of claims 1-7, wherein prior to rinsing the catalyst is
stored under an alkaline solution comprising an alkali hydroxide, which is
different from the alkali hydroxide with which the catalyst is contacted after
rinsing.
- 25 9. Process according to any of claims 1-8, wherein the catalyst, after it has been
contacted with at least part of the hydroxide, is kept as is for a period of at
least 15 minutes prior to contacting the catalyst with the amine.
10. Process according to any of claims 1-9, wherein the hydrogenation is carried
out in an at least partially aqueous liquid reaction medium.
- 30 11. Process according to any of the claims 1- 10, comprising
(a) preparing a reaction mixture of the catalyst contacted with the hydroxide
in a liquid reaction medium under an inert gas atmosphere, wherein the
reaction mixture comprises 0.5-30 weight % of catalyst relative to the total
weight of reaction mixture, and the liquid reaction medium comprises 50-
35 100 weight % amine and 0-50 weight % water, relative to the total weight

of the liquid reaction medium,

- (b) applying a hydrogen pressure between 1 and 100 bar, and
- (c) adding the nitrile to said reaction mixture in a weight ratio, relative to the weight of the catalyst, between 0.1:1 and 10:1, thereby converting the nitrile in the corresponding amine.